MINUTES OF DOT-AGC BRIDGE DESIGN SUBCOMMITTEE MEETING

The DOT-AGC Joint Bridge Design Subcommittee met on June 14th, 2006. Those in attendance were:

Greg Perfetti	State Bridge Design Engineer (Co-Chairman)
Allen Raynor	Asst. State Bridge Design Engineer
Mark Lively	Crowder Construction
Chris Britton	Taylor & Murphy Construction Co.
Ron Hancock	State Bridge Construction Engineer
Tom Koch	Structure Design Project Engineer
Paul Lambert	Structure Design Engineer
Scott Hidden	Support Services Supervisor - Geotech. Eng. Unit
Chris Krieder	Regional Operations Engineer - Geotech. Eng. Unit
Jeff Vones	Structure Design Engineer
Daniel Heath	Structure Design Unit
Gichuru Muchane	Structure Design Engineer

There were no corrections or follow-up discussions on any agenda item from the April 11th, 2006 meeting minutes. The minutes of the April 11th, 2006 meeting were approved.

The following items of new business were discussed:

1. *Integral Bridge Issues*
   Mr. Muchane gave a brief presentation on the Department's draft policy on integral abutments. The presentation included pictures of a current project with integral abutment bridges. The pictures showed some of the construction issues that arise on bridges with integral abutments. Those issues include:

   - Cranes cannot get as close to the bridge as they do on non-integral bridges during girder placement.
   - Walkways are necessary for access to the bridge deck area when the approach fill area is excavated.
   - Providing temporary drainage of the approach fill area may be necessary.

   Mr. Hancock noted that the Department has investigated a temporary concrete backwall that would allow the approach fill to be placed before erecting the girders. However, the Department had to make conservative assumptions on the size of equipment that would be used and the backwall size became unreasonable. The latest idea is to utilize a fabric wall that could be incorporated into the reinforced approach fill. He added that the Department would be receptive to contractors submitting alternative designs for review and approval. This would be beneficial in efforts to develop future standards.

2. *Increased Pile Tonnage Trial Projects*
   Mr. Hidden informed the committee that the Department had identified 3 trial projects that will be let with the proposed increased pile tonnages. The project details are as follows:

TIP	County	No. of Spans	Superstructure Type	Bent Type	Let Date
B-4076	Cleveland	2 (85' & 95')	39" Box Beams	42" Shaft	4/07
B-4155	Iredell	2 (2 @ 55')	Cored slab	42" Shaft	5/07
B-4228	Perquimans	1 (90')	33" Box Beam	-	2/08

Mr. Hidden also noted that the Department has successfully utilized micropiles on a couple of retrofit projects. He added that the Department is interested in evaluating whether micropiles can be used for substructures (bents). As such, the Department will be letting a few trial projects with micropile bents as an alternate to driven pile bents. The Geotechnical Unit is currently seeking additional trial projects to add to the projects listed below:

TIP	County	Let Date
B-3406	Avery	12/06
B-4318	Watuaga	11/08

3. *Special Provision & Standard Details for Temporary Shoring (MSE Type)*
Mr. Hidden distributed a set of draft standard drawings for Temporary Shoring that have been developed by the Geotechnical Unit. He noted the following:

- The first sheet of the new standard drawings includes tables showing standardized designs for shoring up to12 feet in height.
- The remaining 11 sheets of the standard drawings show details for several temporary mechanically stabilized earth (MSE) wall options.
- The notes on these standard drawings are in the process of being updated to include soil parameters.

Mr. Hidden also noted that the Geotechnical Unit has developed a new submittal form for standard temporary MSE walls, which will accommodate up to 3 walls.

4. *Post-Tensioned Full Width Precast Deck Bridge*
Mr. Koch distributed some drawings of project B-4188 in Martin County. The drawings showed details for the post-tensioned full width precast deck bridge that will be let in August. Mr. Koch noted that the trial bridge had been submitted for funding under the FHWA Innovative Bridge Research and Construction program.

5. *Type B-77 Guardrail Anchor Unit*
Mr. Muchane distributed two standard drawings showing details of the B-77 Guardrail Anchor Unit (GRAU). He stated that effective with the November 2006 letting the Roadway Design Unit will be implementing the B-77 GRAU for use on bridges with a New Jersey barrier rail. The B-77 GRAU attaches to the New Jersey barrier rail on the bridge, and therefore the structure plans shall include the new GRAU anchor assembly details.

6. *Next Meeting*
The next meeting is scheduled for August 9th, 2006 in the Structure Design Conference Room C.